



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference MOA-A0211P		FOR FURTHER ACTION	See Form PCT/IPEA/416																								
International application No. PCT/JP2004/003069	International filing date (day/month/year) 10.03.2004	Priority date (day/month/year) 12.03.2003																									
International Patent Classification (IPC) or national classification and IPC																											
Applicant NATIONAL INSTITUTE OF AGROBIOLOGICAL SCIENCES																											
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table border="0"><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>				<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand		Date of completion of this report																									
Name and mailing address of the IPEA/JP		Authorized officer																									
Facsimile No.		Telephone No.																									

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International application No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
 - ☐ publication of the international application (Rule 12.4)
 - ☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☒ the international application as originally filed/furnished
- ☐ the description:

pages _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

- ☐ the claims:

nos. _____ as originally filed/furnished

nos.* _____ as amended (together with any statement) under Article 19

nos.* _____ received by this Authority on _____

nos.* _____ received by this Authority on _____

- ☐ the drawings:

sheets _____ as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	3-6	YES
	Claims	1, 2	NO
Inventive step (IS)	Claims		YES
	Claims	1-6	NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: WO 01/59086 A2 (Sakata Seed Corp.), 16 August 2001

Document 2: Lyznik L.A. et al., Nucleic Acids Research (1993), Vol. 21, No. 4, pages 969 to 975

Document 3: Lloyd A.M. et al., Mol. Gen Genet. (1994), Vol. 242, No. 6, pages 653 to 657

Document 4: Reiko Motohashi et al., Breeding Science (1998), Vol. 48, Separate Volume 2, page 17

Claims 1 and 2

The invention set forth in claims 1 and 2 lacks novelty in the light of document 1.

Document 1 sets forth a method of removing an agrobacterium tumor gene from a structure comprising a first recombinase specifying site, an agrobacterium tumour gene, and a second recombinase specifying site in the directions from 5' to 3', using recombinase which identifies a first and second recombinase identification site. Document 1 also indicates that a second structure containing a recombinase code sequence which codes recombinase is introduced into genetically transformed cells; that the structure is introduced into plant cells via agrobacterium; and that the recombinase is selected

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

from FLP or Cre recombinase. Document 1 also sets forth a plant containing said vector.

Claims 1, 2, 5 and 6

The invention set forth in claims 1, 2, 5 and 6 does not involve an inventive step in the light of documents 1 to 3.

Document 2 sets forth a FLP/FRT site specific recombination system for corn or soybean protoplast, while document 3 sets forth a FLP/FRT site specific recombination system for tobacco. These documents also indicate that a vector having a vector expressing FLP and a vector having two FRT is introduced into plant cells, and that genes enclosed on both sides by FRT are removed by FLP.

Claims 3 to 6

The invention set forth in claims 3 to 6 does not involve an inventive step in the light of documents 1 to 4.

Document 4 indicates that with regard to the creation of an insertion variant system using transposon Ac/Ds in Arabidopsis thaliana, F1 is prepared by alternating stocks holding transferase and transposon.

It would be easy for a person skilled in the art to conceive of applying transposon transferase to the method of removing a target gene by genetically transforming a site-specific recombinase and a site-specific recombinase identifying sequence in a plant cell, as set forth in documents 1 to 3.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The invention set forth in claims 1 to 6 relates to "a site-specific recombinase", "a site-specific recombinase identifying sequence", and "a transposon transition gene", but it is only FLP as the "site-specific recombinase" and FRT sequence as the "site-specific recombinase identifying sequence" which are supported by the description within the meaning of PCT Article 6 and disclosed within the meaning of PCT Article 5.

Therefore the search was carried out on the portion disclosed and supported by the description, i.e. mainly the embodiments.